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PREVALENCE OF COMMUNICABLE DISEASES IN THE UNITED STATES

August 14–September 10, 1938

The accompanying table summarizes the prevalence of eight important communicable diseases, based on weekly telegraphic reports from State health departments. The reports from each State are published in the Public Health Reports under the section "Prevalence of disease." The table gives the number of cases of these diseases for the 4-week period ending September 10, 1938, the number reported for the corresponding period in 1937, and the median number for the years 1933–37.

DISEASES ABOVE MEDIAN PREVALENCE

Influenza.—The number of cases of influenza reported for the four weeks ending September 10 was 1,561; as compared with 1,193, 834, and 1,257 for the corresponding period in the years 1937, 1936, and 1935, respectively. The incidence in the North Atlantic and Pacific regions was about normal and in the East North Central region the number of cases was relatively low, but in all other regions the incidence was comparatively high, the South Atlantic and West South Central areas reporting the highest incidence.

Smallpox.—After a period of unusually high incidence, smallpox has dropped to a more normal level. The current incidence was only about 65 percent of that for the corresponding period in 1937, but was still about 1.3 times the 1933–37 median figure for this period. During several preceding 4-week periods the incidence during the current year was more than three times the 1933–37 average. In the Mountain and Pacific regions the incidence was still somewhat above the preceding 5-year average, but in the North Central regions, where the disease has also been unusually prevalent, the incidence dropped to a normal seasonal level; in other regions the situation was quite favorable.

Number of reported cases of 8 communicable diseases in the United States during the 4-week period Aug. 14-Sept. 10, 1938, the number for the corresponding period in 1937, and the median number of cases reported for the corresponding period 1933-37¹

Division	Current period	1937	5-year median	Current period	1937	5-year median	Current period	1937	5-year median	Current period	1937	5-year median
	Diphtheria			Influenza ²			Measles ³			Meningitis, meningococcus		
United States ¹ -----	1,009	1,468	1,975	1,561	1,193	1,257	2,819	2,972	2,909	136	216	216
New England-----	17	28	35	4	3	4	210	124	175	7	7	7
Middle Atlantic-----	139	128	187	29	22	28	684	963	735	23	40	40
East North Central-----	159	185	236	88	161	184	545	751	683	18	29	37
West North Central-----	103	78	166	107	167	63	189	139	139	11	19	19
South Atlantic-----	705	466	494	501	336	367	320	240	210	23	47	41
East South Central-----	336	232	391	154	57	65	117	243	137	21	28	21
West South Central-----	299	214	251	513	318	189	121	126	126	16	22	8
Mountain-----	80	51	47	98	45	30	184	189	87	11	8	5
Pacific-----	71	86	91	67	84	71	449	197	208	6	16	13
	Poliomyelitis			Scarlet fever ²			Smallpox			Typhoid and paratyphoid fever		
United States ¹ -----	307	2,572	1,412	3,264	3,450	3,922	147	222	117	2,295	2,467	2,955
New England-----	18	284	183	161	142	247	0	0	0	42	44	44
Middle Atlantic-----	79	390	390	514	595	727	0	0	0	272	265	265
East North Central-----	68	749	217	918	1,024	1,129	28	28	25	315	464	464
West North Central-----	31	394	69	435	431	419	21	44	19	169	173	209
South Atlantic-----	41	111	65	329	303	459	1	0	0	537	434	682
East South Central-----	21	88	88	269	243	245	3	21	2	318	395	586
West South Central-----	15	265	15	230	194	187	8	5	5	449	519	481
Mountain-----	9	127	14	120	214	138	24	71	8	107	78	112
Pacific-----	25	164	113	288	304	335	62	53	28	86	95	78

¹ 48 States. Nevada is excluded and the District of Columbia is counted as a State in these reports.

² 44 States and New York City.

³ 46 States. Mississippi and Georgia are not included.

DISEASES BELOW MEDIAN PREVALENCE

Poliomyelitis.—During the current 4-week period, 307 cases of poliomyelitis were reported, as compared with 2,572, 626, and 3,625 for the corresponding period in the years 1937, 1936, and 1935, respectively. While the expected seasonal increase of this disease was apparent in all sections of the country, the number of cases in each region was comparatively small. For the country as a whole the incidence is the lowest for this period in the 10 years for which these data are available. The summer rise of poliomyelitis has, during recent years, reached its peak during the month of September. It is possible, therefore, that the number of reported cases for the current year may be the lowest on record for this disease.

Scarlet fever.—The number of cases (3,264) of scarlet fever was the lowest reported for the corresponding period in 8 years. In the West North Central and South Central regions the current incidence was slightly above the 1933-37 average, but all other regions reported fewer cases than normally occur at this season of the year.

Diphtheria.—The reported incidence of diphtheria for the current period was 1,909 cases, as compared with 1,288 for the preceding 4-week period. The incidence was about 30 percent in excess of that for the corresponding period in 1937, but it still remained below the 1933-37 median incidence for this period. The greatest increases over last year, as well as over the preceding 5-year averages, were reported from the South Atlantic, West South Central, and Mountain regions.

Measles.—The number of cases (2,819) of measles dropped slightly below the average seasonal incidence. The New England, West North Central, and South Atlantic regions reported slight increases over the seasonal expectancy, while the Mountain and Pacific areas reported more definite increases. The South Central regions reported about the normal incidence, and in the Middle Atlantic and East North Central sections the incidence was comparatively low.

Meningococcus meningitis.—The incidence of meningococcus meningitis continued at its recent low level. With the exception of the years 1933 and 1934, when there were 129 cases reported for this period in each year, the current incidence (136 cases) is the lowest in the 10 years for which these data are available. The West South Central and Mountain regions reported a few more cases than normally occur at this season of the year, and in the New England and East South Central regions the incidence equaled the 1933-37 median figure; in other regions the incidence was considerably below the average for recent years.

Typhoid fever.—The typhoid fever incidence was also relatively low. The number of cases (2,215) reported for the current period was about 10 percent below that for the corresponding period in 1937, and nearly 25 percent below the seasonal average. For the country as a whole the current incidence is the lowest recorded for this period in 10 years. The incidence in the North Atlantic, Mountain, and Pacific regions closely approximated the average for the season, but all other regions reported very definite decreases.

MORTALITY, ALL CAUSES

The average mortality rate from all causes in large cities for the 4 weeks ending September 10, based on data received from the Bureau of the Census, was 9.7 per 1,000 inhabitants (annual basis). The rate is normal for this season of the year; the average rate for the 8 preceding years is 9.7.

MOTTLED ENAMEL SURVEY OF BAUXITE, ARK., 10 YEARS AFTER A CHANGE IN THE COMMON WATER SUPPLY*

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Bauxite, Arkansas, occupies a prominent place in mottled enamel history. It is a small mining community that was established in 1901 to provide homes and a social environment for the employees of the mining company. It is owned by the Republic Mining and Manufacturing Company, a subsidiary of the Aluminum Company of America and is located about 25 miles southwest of Little Rock. The present population is estimated to be about 1,800.

Apparently the first to report endemic mottled enamel at Bauxite was Dr. F. L. Robertson, a practicing dentist of Benton, a city about 5 miles from Bauxite. His report was made to the Arkansas State Board of Health, and in March 1926 the State health officer asked the United States Public Health Service to make a study of mottled enamel in Bauxite.¹

The original domestic water supply of Bauxite was obtained from shallow wells and a few springs. With the increase in population and contamination of certain of these surface supplies, a new water supply became necessary, and in 1909 two 297-foot wells were drilled. One of these wells became partly filled at the bottom from caving, and in September 1925 a new 245-foot well was added.

It appears that the association of mottled enamel with the use of water from the deep wells was recognized even before a survey of the community had been made; Mr. L. R. Branting, Superintendent, wrote to one of us (F. S. McK.) as early as September 1927 that steps had already been taken to change the common water supply.² He states: "In choosing our new supply of water, we took account of the fact that the city of Benton gets its domestic water from the Saline River and that this water does not seem to affect the teeth of the children."³ He further added that a 6-inch pipe leading from the Saline River, 7 miles distant, had already been installed and that construction had been started on a filter to render the water suitable for domestic purposes.

In February 1928 a survey of mottled enamel was made by Kempf and McKay (1). In this survey 458 children, ages 5 to 18, were

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¹ Official request for a survey of Bauxite from the State Health Officer, C. W. Garrison, addressed to the Surgeon General, U. S. Public Health Service, dated March 16, 1926.

² Personal communication dated September 14, 1927.

³ At the time of the 1928 survey, the public school children at Benton were also examined and the fact established that mottled enamel was not associated with the use of the Saline River water. These observations were included in the report of the original survey at Bauxite. See ref. (1).

examined in the schools of Bauxite. Mottled enamel of some teeth was found in 202 cases, or 44 percent. Among the 458 children examined, there were 66 children, ages 5 to 18 years, who, the authors state, were born in Bauxite, had lived there all of their lives, and had always used the municipal deep-well supply. Of these 66 children, 63 had some permanent teeth erupted. Sixty-one of the 63 showed evidence of mottled enamel. It was also noted in this report that the homes of each of the two children with normal teeth were piped for the common water supply, but one gave a history of not using this water for either cooking or drinking, while the other is recorded as having used spring water for drinking most of the time.

The evidence collected by these investigators in the examination of the elementary and high school children was summarized as follows:

"1. No cases of the enamel defect were found which antedated the introduction of the deep-well water.

"2. The oldest individual found with this enamel defect was born about the time that the deep-well water was introduced.

"3. All individuals in the community who had used the deep-well water during any considerable period of enamel formation exhibited this defect.

"4. No individual in the community whose enamel had developed elsewhere exhibited this defect.

"5. Certain individuals, who, although residents of the community and attending school there, but who actually lived beyond the distribution of the deep-well water and depended upon the original shallow wells, exhibited only normal enamel."

In 1931 Churchill (2) stated that, following the publication of the report of Kempf and McKay (November 28, 1930), "A. W. Petrey of this laboratory⁴ spectrographically discovered the presence of fluorides in deep-well water from Bauxite, Arkansas." In the same article Churchill reported that a quantitative determination of the flourine content of the Bauxite deep-well water showed 13.7 parts per million.

The use of filtered river water began in May 1928, and has been continuous since that time. Of the two deep wells from which water was obtained prior to the time of the change, one, the 245-foot well, is still used for industrial purposes, the other having been abandoned. Water from the deep well may be pumped into the distribution system, but it would necessitate the repair of a relift pump and manipulation of a one-gate valve. There is no record of this having been done since the installation of the filtered river water in 1928. Practically all of the population use the common water supply.

Adjoining Bauxite is a small mining community known as Norton Town. The water supply for this community is obtained from a well 247 feet deep located about 300 to 400 yards from the old Bauxite

⁴Aluminum Research Laboratories, New Kensington, Pa.

deep wells and apparently obtaining water from the same stratum. The water from this supply is piped to the Norton Town homes. At the time of the resurvey (March 1938), there were 14 families using this water. The Norton Town families use the Saline River water, the present Bauxite water supply, for drinking, and Norton Town deep-well water for cooking. There is no known connection between these two supplies. Children from Norton Town using this dual domestic water supply were excluded from this study.

The present Bauxite common water supply is obtained from the Saline River. It is pumped from the river to Bauxite, subjected to rapid sand filtration, and disinfected with liquid chlorine. This supply is used almost wholly for domestic purposes, although there are some fire hydrants connected with the treated water system in the residential districts. The major fire protection for the manufacturing plants, however, is carried from the main raw water line from the river. As has been noted, water for industrial purposes is also being obtained from one of the old deep wells. There is, however, no record of a connection between any of these water systems.

RESURVEY OF BAUXITE

Approximately 10 years⁵ after the change in the communal water supply, Bauxite was resurveyed. A brief description will be given of the criteria followed in the selection of the sample and the standards used in the clinical survey. The study included all children in the Bauxite school system, first to eighth grades, inclusive, whose history indicated continuous use of the communal water supply. The age distribution of the group was sufficiently wide to permit its subsequent division into three categories, namely, (a) children who, during the period of tooth calcification had used the filtered river water exclusively; (b) those who had used both the river water and the old deep-well water; and (c) those who had used the old deep-well supply almost exclusively.

Each of the class rooms was visited and the purpose of the study carefully explained. Children who stated that they were born in Bauxite, had continuously resided there since birth (30 days in any calendar year excepted), and who had always used the common water supply were assembled in a separate group. This group was then subjected to further interrogation in an attempt to learn of discontinuities in residence or in the use of the common water supply. Judicious questioning often elicited information such as the fact that some children had lived for a time at some nearby town or farm or had used domestic water from a source other than the public supply. Children whose histories indicated any of these discontinuities were

⁵ The resurvey was made in March 1938, the original survey in February 1928.

eliminated from further study by this screening method. Those remaining apparently represented a group constantly exposed to the risk of the water-borne endemic hypoplasia of enamel under investigation, and were accordingly listed for detailed dental examination.

The clinical examinations were made in a good light with the child seated facing a window. Mouth mirrors, free from blemishes, and explorers (Nos. 5, 11, and 12) were used in making examinations. Each child was examined independently⁶ by each of the field observers (H. T. D. and F. S. McK.), two schedule forms being prepared for each child. The findings were recorded by an amanuensis on the special examination form designed for mottled enamel surveys (fig. 1). In addition to mottled enamel, other defects of the enamel such as caries, present or past (fillings), pits and fissures, and hypoplasias of other types were recorded. The dental examinations were made at the approximate rate of 40 per school day per examiner.

Following the clinical examination, the home of each child was visited and the information recorded on the form shown in figure 1 under the heading "III Water History" was carefully rechecked by an interview with the child's parent. This recheck revealed additional inaccuracies in residence or water supplies used, which the child either did not know or had forgotten. Under the conditions of this study, it was possible to find only 82 children continuously exposed to the common water supply of Bauxite with the facts confirmed by the child's parent.

TABLE 1.—Summary of data with relation to continuity of residence and concomitant use of the Bauxite common water supply

	Grades				Total
	1-2	3-4	5-6	7-8	
1. Number of pupils in attendance on the day of screening....	73	75	71	80	308
2. Number of pupils whose history on questioning indicated constant residence and continuous use of the communal water supply and who were examined.....	32	30	20	24	106
3. Percentage of pupils present examined under (2)	44	40	28	26	34
4. Number of schedules eliminated by house-to-house check ..	7	8	4	5	24
5. Percentage of total present showing verified constant residence and water history.....	34	29	22	21	26

¹ The most frequent single cause for rejection was the continued use of water from the "Hamp Smith Spring" for drinking prior to 1928. Eight of the 24 schedules eliminated were for this reason.

PERIOD OF SUSCEPTIBILITY TO MOTTLED ENAMEL

In evaluating clinical data recorded in mottled enamel studies where the age distribution of the group examined overlaps a change in the common water supply, it is essential that the period of susceptibility

⁶ With the exception of 10 children later examined solely by one of us (H. T. D.). In order to include in our series the largest number possible of children of verified continuity of exposure, these 10, consisting mostly of children absent on the days that the clinical examinations were being made, were examined a day or two later and added to the series of 72 children of continuous history examined independently by each examiner.

**UNITED STATES PUBLIC HEALTH SERVICE
NATIONAL INSTITUTE OF HEALTH
DIVISION OF INFECTIOUS DISEASES**

NAME OR NUMBER
OF SCHOOL

EXAMINER

CASE NO.

STATE COUNTY NAME

LAST FIRST

CITY

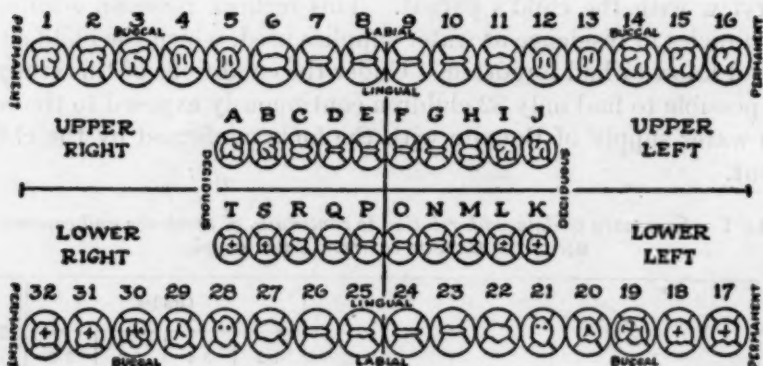
STREET AGE SEX COLOR

ADDRESS YEARS MONTHS

RURAL GRADE DATE

* IF RURAL, NOTE DIRECTION AND MILES FROM NEAREST TOWN. PARENT'S NAME

I. CLINICAL EXAMINATION. THE DIAGRAM SHOULD PRESENT DEFINITE INFORMATION CONCERNING EVERY TOOTH SHOWN IN IT. DRAW AN X THROUGH EACH MISSING TOOTH. DRAW A CIRCLE AROUND THE NUMBER OR LETTER OF EACH TOOTH THAT IS PRESENT AND NORMAL. OUTLINE AND FILL IN CAREFULLY ON TOOTH DESIGN THE AREA OF CARRIES OR FILLING PRESENT. SYMBOLS TO BE PLACED UNDER APPROPRIATE TEETH: MOTTLED ENAMEL —, BROWN STAIN +, UN-ERUPTED 0, EXTRACTION INDICATED √, CROWN #, PONTIC E.



LIST NUMBER OR
LETTER OF TEETH
WITH FILLINGS:

OCCLUSION				GINGIVITIS		
I	II	III	NORM.	SEVERE	MILD	FREE

II. CLASSIFICATION OF MOTTLED ENAMEL DIAGNOSIS. FOR DESCRIPTION OF DEGREES OF SEVERITY, SEE J. A. D. A., AUGUST, 1934, OR P. H. R., MARCH 29, 1935. TO SUMMARIZE YOUR GENERAL IMPRESSION OF THE DEGREE OF SEVERITY, PLACE CHECK (✓) IN ONE BOX:

NORMAL ☐ QUESTIONABLE ☐ VERY MILD ☐ MILD ☐
MODERATE ☐ MODERATELY SEVERE ☐ SEVERE ☐
(OVER)

FIGURE 1a (Obverse).

ENUMERATOR: _____

III. WATER HISTORY

RESIDENCE FROM BIRTH IN CHRONOLOGICAL ORDER *	DUR- ATION (YRS.)	SOURCE OF DRINKING WATER **					
		MUNI- CIPAL	DEEP WELL	SHALLOW WELL	CIS- TERN	SPRING	OTHER
BIRTH PLACE							
2.							
3.							
4.							
5.							
6.							
7.							

WAS ABOVE HISTORY CONFIRMED BY INTERVIEW WITH CHILD'S PARENTS? YES ☐ NO ☐

SIBLINGS
IN NONE () NAME _____ GRADE _____ SCHOOL _____
SCHOOL NAME _____ GRADE _____ SCHOOL _____
NAME _____ GRADE _____ SCHOOL _____

REMARKS: _____

* IGNORE CHANGES IN A DURATION OF RESIDENCE LESS THAN THIRTY DAYS IN ONE CALENDAR YEAR.

** MUNICIPAL: DESCRIBE SEPARATELY AND IN DETAIL STATING TYPE AND HOW LONG PRESENT SUPPLY HAS BEEN USED. NOTE ALL CHANGES CONCOMITANT WITH LIFE OF AGE GROUP EXAMINED.

DEEP WELL: STATE DEPTH AND CASING; OBTAIN LOG IF AVAILABLE.

SHALLOW WELL: STATE WHETHER DUG OR DRIVEN AND APPROXIMATE DEPTH.

CISTERN: NOTE WHETHER CISTERN IS TIGHT OR LEAKY.

SPRING: STATE WHETHER HOT OR COLD AND TYPE OF GEOLOGICAL FORMATION THROUGH WHICH ISSUING, IF POSSIBLE.

OTHER: WRITE IN TYPE OF WATER SUPPLY, I.E., OPEN OR IRRIGATION DITCHES, CREEKS, ETC.

(2652)

FIGURE 1b (Reverse)

to mottled enamel be clearly understood. Susceptibility to mottled enamel is limited to a sharply defined age group of the population, namely, those in whom the crowns of the permanent teeth are calcifying. The interval in time between the period during which the toxic fluorides are operative, and the time when the objective evidence is apparent, is unusually long.

In order that this period of susceptibility (period when crowns of the teeth are calcifying), the quiescent period (pre-eruptive), and the time when the pathology is evident (time of eruption) may be clearly understood, the table of the chronology of permanent human dentition by Kronfeld is reproduced here:

Chronology of the human dentition (permanent teeth)

[Logan and Kronfeld¹]

Tooth			First evidence of calcification	Crown completed (years of age)	Eruption (years of age)	Root completed (years of age)
Permanent dentition.	Upper jaw --	Central incisor.....	3 to 4 months.....	4 - 5	7 - 8	10
		Lateral incisor.....	1 year.....	4 - 5	8 - 9	11
		Cuspid.....	4 to 5 months.....	6 - 7	11-12	13-15
		First bicuspid.....	1½ to 1¾ years.....	5 - 6	10-11	12-13
		Second bicuspid.....	2 to 2½ years.....	6 - 7	10-12	12-14
		First molar.....	At birth.....	2½ - 3	6 - 7	9-10
		Second molar.....	2½ to 3 years.....	7 - 8	12-13	14-16
		Third molar.....	7 to 9 years.....	12 -16	17-21	18-25
	Lower jaw --	Central incisor.....	3 to 4 months.....	4 - 5	6 - 7	9
		Lateral incisor.....	do.....	4 - 5	7 - 8	10
		Cuspid.....	4 to 5 months.....	6 - 7	10-11	12-14
		First bicuspid.....	1¾ to 2 years.....	5 - 6	10-12	12-13
		Second bicuspid.....	2¼ to 2½ years.....	6 - 7	11-12	13-14
		First molar.....	At birth.....	2½ - 3	6 - 7	9-10
		Second molar.....	2½ to 3 years.....	7 - 8	12-13	14-15
		Third molar.....	8 to 10 years.....	12 -16	17-30	18-25

¹ The Bur, 35: 18-25 (March 1935).

COMPARISON OF FINDINGS OF 1928 SURVEY AND THE 1938 SURVEY

The findings of the 1928 survey were fortunately recorded in a manner that facilitates comparison with the 1938 data. Due to the fact that certain groups of teeth calcify at different periods in the child's life, Kempf and McKay (1) divided the permanent teeth into three different groups, the divisions being based upon the order of calcification in order of time. Their grouping is as follows:

First group	Second group	Third group
First molars	Second bicuspid	Third molars
Incisors	Cuspid	
First bicuspid	Second molars	

In that portion of the school population showing continuous exposure to the Bauxite deep-well water, Kempf and McKay reported the incidence of mottled enamel by single age groupings with a further classification according to the chronological divisions of calcification just stated.

Study of the 1938 survey shows that the 14 children, 14 and 15 years of age, whose "first group" of permanent teeth were calcified while using the deep-well water, each show mottled enamel, generally of a marked type. The 11-, 12-, and 13-year-old group obviously represents a group of children whose teeth were partially calcified under the influence of the "old" supply and partially while using the "new" supply. Of the ten 13-year-old children who had used the deep-well supply for 3 years prior to the change, 8 were affected. Among the six 12-year-old children who had been exposed for 2 years prior to the change, 3 showed evidence of mottled enamel; but of the seven 11-year-old children who had used the old supply for only a year, only one showed mottled enamel, and that of "very mild" degree. Of the 45 children, ages 6 to 10, born about the time of or subsequent to the change in water supply, 43 showed no evidence of mottled enamel. The two cases diagnosed as positive were each "very mild".⁷ Among the 43 children recorded as normal, there were 5 children showing slight aberrations in the enamel of a few of the permanent teeth, generally white flecks or spots. The abnormalities were of a questionable type and a positive diagnosis of even the mildest form of mottled enamel was not warranted.

⁷The classification "very mild" is used to designate the mildest type of mottled enamel, the white opacity which shows irregularly and involves not more than 25 percent of the tooth surface. In most cases, too, only a few teeth are affected, the remainder of the dentition being normal. The most frequent use of this classification is in those endemic areas where the fluoride content of the water supply is just above the minimal threshold, 1.0 part per million. In such places, the examiner may find 25 to 30 percent of the children showing the mildest form of dental fluorosis, the others generally being normal or questionable. Even in the surveys of places where the community mottled enamel index is negative (less than 10 percent of the children affected) sporadic cases of very mild degree are occasionally observed. Whether these very mild markings in a community whose index is negative suggest an unusual susceptibility on the part of the child to very small amounts of fluorides (< 1.0 p. p. m. of F), a water intake markedly in excess of that common to the child's age group, peculiarities in culinary habits (high frequency of soups, stews, or boiled cereals, etc.) in the child's home, or other factors, is at present unknown.

In the case of Bauxite, it is well to remember that the water used by the residents during the first few years after the change to the filtered river water may have been slightly higher in fluoride content than the present supply. The incrustations in the iron pipes of the distribution system or in cooking utensils in the homes may have been sufficient to bring the fluoride (F) content of the water up to an amount which could produce sporadic cases of very mild mottled enamel in 4 or 5 percent of the continuous users.

Furthermore, it must be borne in mind that conditions in Bauxite were quite different from those in the average endemic area in the United States. Actually the population using the deep-well supply was ingesting about five and one-half times as much fluorine as the residents of Colorado Springs and about three and one-half times as much as the residents of Amarillo, Tex. The possibility, therefore, of skeletal storage and antepartum maternal fluorosis with subsequent transfer of small amounts of fluorine in the maternal milk, must be given thoughtful consideration. Roholm (3) has recorded a "moderate" type of mottled enamel in 3 children nursed for a relatively long period (1 to 2 years) by mothers exposed to cryolite dust previous to gestation and lactation, the fluorine intoxication in the children apparently occurring through the mother's milk. The 7-year-old child at Bauxite in whom "very mild" mottled enamel was observed was nursed 15 months.

It may be observed that the daily use of a domestic water containing 13.7 p. p. m. of fluorine possibly results in a daily fluorine absorption equal to approximately half of that estimated for the cryolite workers who developed osteosclerosis as described by Roholm.

MOTTLED ENAMEL IN RELATION TO TOTAL ERUPTED PERMANENT TEETH

Probably a better way to illustrate the marked changes resulting from the change in the communal water supply is to record the number of permanent teeth affected by mottled enamel in relation to the total number of erupted permanent teeth. Comparisons are limited to the permanent teeth of the "first group" in those 82 children whose continuity of exposure was verified by an interview with the child's parent.

The agreement between the two examiners with respect to mottled enamel diagnosis was so close that there would be little value in a detailed recording of their individual findings with respect to specific teeth. In order, therefore, to simplify the presentation of these data, the findings of one examiner only will be shown. These data are given in table 2.

TABLE 2.—Percentage of erupted permanent teeth affected with mottled enamel in relation to the domestic water used during the period of calcification

	First group of permanent teeth calcified while using—									
	Deep-well water			Both water supplies			Filtered river water			
Age of children examined.....	15	14	13	12	11	10	9	8	7	6
Number of children examined.....	7	7	10	6	7	5	13	8	14	8
Number of first molars, incisors, and first bicusps present.....	112	108	152	93	106	67	157	85	121	31
Number affected with mottled enamel.....	95	83	73	22	2	0	15	0	14	0
Percentage of permanent teeth affected.....	84.8	76.8	48.0	23.4	1.8	0	1.9	0	3.3	0
Percentage, all ages.....	80.9			27.4			1.5			

¹ All teeth listed in this group as having mottled enamel were classified as "very mild." As a contrast in the marked quantitative differences in severity, only 36, or about 20 percent, of the 178 affected teeth in the 14-15 year age group were so slightly affected as to permit their inclusion in the lowest grade of mottled enamel classification, "very mild."

NOTE.—Erupting permanent teeth not showing approximately 50 percent of crown and teeth covered by food debris obviating adequate inspection excluded from above data.

THIRD MOLAR IMMUNITY FROM MOTTLED ENAMEL IN HIGHER AGE GROUPS

In surveying endemic areas it is a common experience to note among certain older high school pupils individuals with all permanent teeth showing normal calcification with the exception of the third molars, which are mottled. This condition is seen in children who take up residence in an endemic area when about 8 to 10 years of age and use the mottled-enamel-producing water during the period of third molar calcification.

It was interesting to note a complete reversal of this common observation in the study at Bauxite. Seven or eight young men and

women in the Senior High School were examined, some of whom had also been examined in the 1928 survey.

Practically all permanent teeth with the exception of the third molars were severely affected by mottled enamel. But the third molars, calcified at a later date (since the change to the filtered river water), showed normal calcification. The repeated observation of 4 normally calcified third molars in an individual with the other 28 permanent teeth severely marked by mottled enamel furnished a striking illustration of the effects resulting from the change in the water supply.

The photograph shown in figure 4 was taken during the 1928 survey. A reexamination of this person in 1938 showed the condition just described—4 normally calcified third molars, with the other 28 permanent teeth severely affected by mottled enamel.

CHEMICAL ANALYSES OF WATERS USED

As has been our custom in other mottled enamel surveys, analyses were made of constituents of the water other than fluorides. The fluoride content was estimated colorimetrically by means of the zirconium-alizarin reagent (4). Results of the chemical analyses of the waters are given in table 3, the chemical findings made in connection with the 1928 study (1) being included for comparative purposes.

TABLE 3.—Analyses of the waters used

	1928 ¹		1938 ²			
	Bauxite deep-well water	Bauxite filtered water	Bauxite 245-foot deep well	Bauxite filtered river water	247-foot Norton Town well	Hamp-Smith spring
	p. p. m.	p. p. m.	p. p. m.	p. p. m.	p. p. m.	p. p. m.
Total residue on evaporation.....	1,003.0	86.0	958.6	60.0	805.3	23.8
Loss on ignition.....	43.0	14.0	27.4	10.6	26.9	4.4
Fixed residue.....	960.0	72.0	931.2	49.4	778.4	19.4
Silica (SiO ₂).....	18.6	6.0	13.6	5.8	9.0	10.4
Iron (Fe).....	1.0	.3	.1	.02	.09	.02
Aluminum (Al).....			.4	0	0	0
Calcium (Ca).....	25.3	17.6	30.9	11.4	17.7	1.8
Magnesium (Mg).....	7.0	2.1	8.8	3.7	6.6	0
Sodium and potassium (calculated as Na).....			33.4	2.9	287.7	2.4
Sodium (Na).....	344.6	9.6				
Potassium (K).....	0.2	3.4				
Carbonate (CO ₃).....	1.2	0	0	0	4.8	0
Bicarbonate (HCO ₃).....	258.2	63.4	247.6	47.5	287.9	4.9
Sulfate (SO ₄).....	39.6	15.7	35.0	10.3	25.3	2.2
Nitrate (NO ₃).....	.3	.03	0	.27	0	.13
Chloride (Cl).....	415.9	3.75	389.5	3.0	274.5	2.0
Fluoride (F).....	(?)		14.1	0	16.9	0
Phosphate (PO ₄).....			.1	0	.1	0
Boron (B).....			.8	0	.9	0

¹ Samples collected July 1928.

² Samples collected in March 1938. Assistant Chemist C. G. Remsburg carried out the determinations other than fluoride and boron, using mostly the methods given in the Standard Methods of Water Analysis of the American Public Health Association. The phosphate was determined colorimetrically by an adaptation of the Benedict and Theis method (J. Biol. Chem., 61: 63 (1924)). The boron determinations were made essentially by the method of Foote (J. Ind. Eng. Chem., Anal. Ed., 4: 39 (Jan. 15, 1932)).

³ In 1931 Churchill reported 13.7 p. p. m. of F in the Bauxite deep well.



FIGURE 3.—Severe (confluent pitting).



FIGURE 4.—Severe (confluent pitting).



FIGURE 5.—Severe (discrete pitting).



FIGURE 6.—Moderate (brown stain).

Teeth of children in whom the calcification of the permanent teeth occurred while using the deep-well water supply. (Photographs taken during the 1928 survey.)



FIGURE 7.—Normal.



FIGURE 8.—Normal.



FIGURE 9.—Normal.



FIGURE 10.—Normal.

Teeth of children in whom the calcification of the permanent teeth occurred while using the filtered river water exclusively.



FIGURE 11.—Moderate (brown stain).



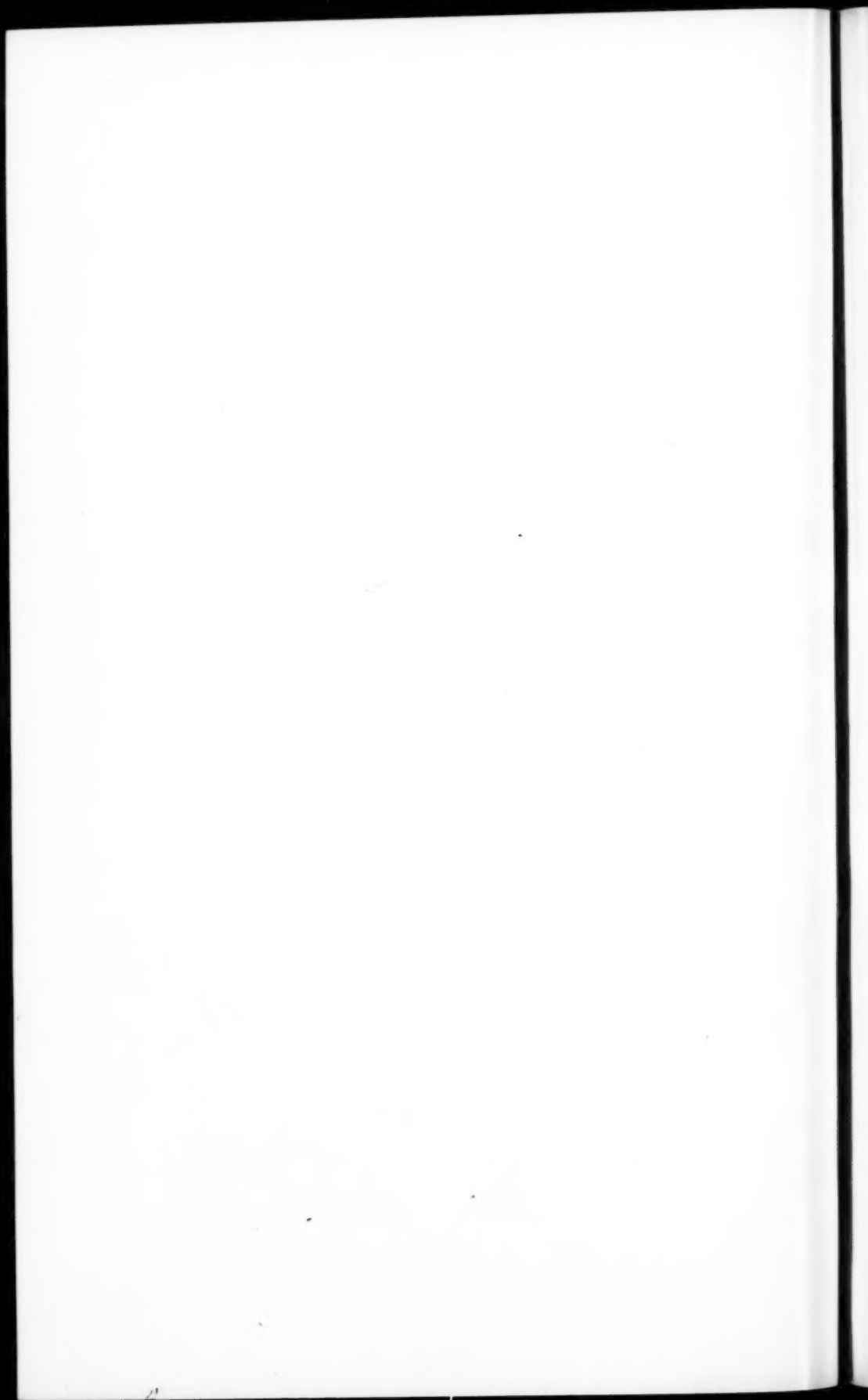
FIGURE 12.—Mild.



FIGURE 13.—Very mild.



FIGURE 14.—Very mild.
Teeth of children in whom the calcification of the permanent teeth occurred while using the deep-well supply in varying amounts.



DISCUSSION

The development of the endemic hypoplasia known as chronic endemic dental fluorosis (mottled enamel) has again been halted by changing from a common water supply containing toxic amounts of fluorides to one relatively low in fluorides. One of us (F. S. McK.) has previously described (5) a similar result in an experiment at Oakley, Idaho, the first known instance of a community abandoning an otherwise satisfactory common water supply solely for the purpose of preventing the development of mottled enamel.

On the basis of the degree of affection observed in the 14- and 15-year old children whose "first group" of permanent teeth were calcified largely under the influence of the "old" deep-well supply, the tentative community mottled enamel index associated with the deep-well supply was "very marked." The application of this same method (6) to the percentage distribution of severity in the 45 children born since the change in the water supply shows that the "actual mottled enamel index" of Bauxite at present is "negative."

SUMMARY

1. The production of an unusually severe type of endemic dental fluorosis (mottled enamel) at Bauxite, Ark., was halted with the change in the common water supply.

2. This is the second recorded instance in the United States where a community has abandoned the use of an otherwise satisfactory common water supply solely for the purpose of preventing the development of permanent dental disfigurements among its children. The efforts in each instance were successful.

ACKNOWLEDGMENTS

The writers are indebted to Chief Sanitary Engineer F. L. McDonald and Assistant Sanitary Engineer Walter A. Reinman, Arkansas State Board of Health, to Dr. J. Scott Walker, Chetopa, Kansas, and to company officials of the Republic Mining and Manufacturing Company for their assistance and cooperation in the study at Bauxite, and to Senior Statistician Wm. M. Gafafer, National Institute of Health, for helpful suggestions relative to presenting the data shown in figure 2.

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DEATHS DURING WEEK ENDED SEPTEMBER 17, 1938

[From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended Sept. 17, 1938	Correspond- ing week, 1937
Data from 88 large cities of the United States:		
Total deaths.....	6,736	¹ 6,879
Average for 3 prior years.....	17,040	
Total deaths, first 36 weeks of year.....	294,390	318,803
Deaths under 1 year of age.....	478	¹ 490
Average for 3 prior years.....	1,496	
Deaths under 1 year of age, first 36 weeks of year.....	19,064	20,532
Data from industrial insurance companies:		
Policies in force.....	68,305,733	69,801,191
Number of death claims.....	8,320	8,943
Death claims per 1,000 policies in force, annual rate.....	6.4	6.7
Death claims per 1,000 policies, first 36 weeks of year, annual rate.....	9.2	10.0

¹ Data for 86 cities.

PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

CURRENT WEEKLY STATE REPORTS

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers.

In these and the following tables, a zero (0) indicates a positive report and has the same significance as any other figure, while leaders (.....) represent no report, with the implication that cases or deaths may have occurred but were not reported to the State health officer.

Cases of certain diseases reported by telegraph by State health officers for the week ended Sept. 17, 1938, rates per 100,000 population (annual basis), and comparison with corresponding week of 1937 and 5-year median

Division and State	Diphtheria				Influenza				Measles			
	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median
NEW ENG.												
Maine.....	0	0	3	0	.....	.....	1	.....	6	1	.....	.....
New Hampshire.....	0	0	0	0	.....	.....	.....	.....	20	2	.....	.....
Vermont.....	54	0	2	0	.....	.....	.....	.....	.....	.....	1	2
Massachusetts.....	2	4	0	6	.....	.....	.....	.....	28	21	10	17
Rhode Island.....	0	2	0	0	.....	.....	.....	.....	18	2	2	2
Connecticut.....	0	0	4	3	3	1	1	1	15	5	2	4
MID. ATL.												
New York.....	8	20	10	15	13	14	16	15	19	46	74	47
New Jersey.....	10	8	12	11	8	7	4	7	32	27	20	15
Pennsylvania.....	10	19	22	23	.....	.....	.....	.....	17	33	84	32
E. NO. CEN.												
Ohio.....	11	14	12	21	.....	.....	15	28	8	7	55	9
Indiana.....	14	9	13	19	9	6	8	17	2	1	3	2
Illinois.....	12	18	23	23	5	7	8	5	6	9	44	21
Michigan.....	8	7	12	11	1	1	.....	.....	56	52	14	11
Wisconsin.....	4	2	5	5	18	10	20	20	53	30	40	40
W. NO. CEN.												
Minnesota.....	8	4	2	8	6	3	.....	2	35	18	8	6
Iowa.....	2	1	2	3	14	7	.....	.....	8	4	3	1
Missouri.....	33	25	21	21	1	1	11	14	4	3	43	10
North Dakota.....	7	1	1	2	15	2	2	1	59	8	2	3
South Dakota.....	60	8	1	0	15	2	.....	.....	.....	.....	.....	.....
Nebraska.....	8	2	0	4	.....	.....	.....	.....	27	7	.....	1
Kansas.....	14	5	4	10	3	1	3	2	22	8	5	4
SO. ATL.												
Delaware.....	0	0	0	0	.....	.....	.....	.....	.....	.....	.....	.....
Maryland.....	19	6	6	6	6	2	4	4	28	9	8	5
Dist. of Col.....	0	0	2	9	.....	.....	.....	.....	8	1	.....	.....
Virginia.....	100	52	32	33	.....	.....	.....	.....	4	2	6	6
West Virginia.....	31	11	16	22	36	13	18	14	.....	.....	9	3
North Carolina.....	160	107	72	69	1	1	.....	3	43	29	18	18
South Carolina.....	86	31	18	18	381	137	104	98	28	10	7	1
Georgia.....	66	39	30	30	.....	.....	.....	.....	.....	.....	.....	.....
Florida.....	25	8	17	10	3	1	.....	1	9	3	6	2

See footnotes at end of table.

Cases of certain diseases reported by telegraph by State health officers for the week ended Sept. 17, 1938, rates per 100,000 population (annual basis), and comparison with corresponding week of 1937 and 5-year median—Continued

Division and State	Diphtheria				Influenza				Measles			
	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median
E. SO. CEN.												
Kentucky.....	48	27	33	33	12	7	7	7	21	12	8	8
Tennessee ⁴	36	20	45	30	16	9	22	9	4	2	18	9
Alabama ⁴	59	33	30	34	13	7	10	21	34	19	2	2
Mississippi ¹	67	26	9	15								
W. SO. CEN.												
Arkansas.....	48	19	16	16	41	16	1	3	13	5	1	2
Louisiana ⁴	15	6	10	10	5	2	2	3	42	17	1	1
Oklahoma.....	16	8	3	10	76	37	10	10	4	2	1	1
Texas ⁴	41	48	26	33	70	83	79	25	7	8	20	10
MOUNTAIN												
Montana.....	0	0	1	2	10	1		1	106	11	8	3
Idaho.....	11	1	0	0	11	1			42	4	3	1
Wyoming.....	0	0	1	0					22	1	1	1
Colorado.....	83	17	11	5					24	5	7	4
New Mexico.....	25	2	2	2	12	1			12	1	2	2
Arizona.....	25	2	9	2	201	23	15	3	38	3	1	1
Utah ¹	0	0	7	0	30	3			30	3	10	3
PACIFIC												
Washington.....	6	2	0	0					16	5	10	11
Oregon.....	0	0	3	1	56	11	10	10	51	10	7	7
California.....	24	28	17	22	11	13	10	18	123	145	21	38
Total.....	26	642	565	689	21	420	371	348	24	591	577	433
37 weeks.....	18	16,640	15,435	20,474	65	47,715	275,825	142,573	846	763,061	243,814	343,707

Division and State	Meningitis, meningococcus				Poliomyelitis				Scarlet fever			
	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median
NEW ENG.												
Maine.....	0	0	0	0	0	0	16	4	30	5	3	6
New Hampshire.....	0	0	0	0	0	0	1	1	0	0	1	3
Vermont.....	0	0	0	0	14	1	6	1	123	9	3	3
Massachusetts.....	2.4	2	1	1	0	0	41	21	33	28	45	33
Rhode Island.....	0	0	0	0	0	0	4	1	0	0	4	5
Connecticut.....	3	1	0	0	3	1	16	9	42	14	12	12
MID. ATL.												
New York.....	2.8	7	5	5	3	8	91	91	28	70	88	111
New Jersey.....	0	0	2	2	4	3	21	21	16	13	16	22
Pennsylvania.....	1.5	3	7	5	2.6	5	40	35	40	78	73	119
E. NO. CEN.												
Ohio.....	0	0	7	2	0	0	59	18	45	58	133	100
Indiana.....	3	2	0	1	0	0	10	2	51	34	44	44
Illinois.....	0.7	1	1	3	2.0	3	81	21	62	94	101	107
Michigan.....	1.1	1	3	3	5	5	57	16	137	127	81	66
Wisconsin.....	0	0	1	2	4	2	45	8	70	39	27	55
W. NO. CEN.												
Minnesota.....	0	0	0	0	12	6	52	8	53	27	23	23
Iowa.....	4	2	0	0	6	3	35	4	41	20	24	29
Missouri.....	1.3	1	2	2	0	0	47	4	38	29	74	43
North Dakota.....	0	0	1	0	0	0	0	0	37	5	4	6
South Dakota.....	0	0	1	0	15	2	3	2	60	8	14	11
Nebraska.....	0	0	0	0	0	0	18	1	42	11	10	10
Kansas.....	0	0	0	0	0	0	30	3	162	58	31	32

See footnotes at end of table.

Cases of certain diseases reported by telegraph by State health officers for the week ended Sept. 17, 1938, rates per 100,000 population (annual basis), and comparison with corresponding week of 1937 and 5-year median—Continued

Division and State	Meningitis, meningococcus				Poliomyelitis				Scarlet fever			
	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median
SO. ATL.												
Delaware.....	20	1	1	0	20	1	0	0	120	6	3	3
Maryland.....	3	1	2	1	3	1	7	3	28	9	30	21
Dist. of Col.....	0	0	0	0	42	5	2	0	67	8	5	5
Virginia.....	0	0	1	2	4	2	5	4	44	23	7	28
West Virginia.....	0	0	3	3	0	0	2	6	87	31	26	30
North Carolina.....	0	0	0	1	0	0	4	2	69	46	31	44
South Carolina.....	0	0	1	0	0	0	1	0	36	13	8	5
Georgia.....	1.7	1	0	0	3	2	5	2	17	10	30	11
Florida.....	6	2	1	0	3	1	1	0	12	4	1	2
E. SO. CEN.												
Kentucky.....	0	0	2	2	1.8	1	4	5	95	53	31	48
Tennessee.....	1.8	1	3	3	0	0	1	3	41	23	21	41
Alabama.....	4	2	2	2	9	5	3	2	27	15	20	20
Mississippi.....	5	2	0	0	15	6	4	1	15	6	8	9
W. SO. CEN.												
Arkansas.....	0	0	0	0	0	0	9	1	8	3	6	3
Louisiana.....	2.4	1	2	0	0	0	8	1	10	4	7	4
Oklahoma.....	4	2	2	1	4	2	19	2	31	15	12	7
Texas.....	0.8	1	0	1	1.7	2	33	1	30	35	24	19
MOUNTAIN												
Montana.....	10	1	0	0	0	0	4	1	145	15	37	12
Idaho.....	0	0	0	0	11	1	0	0	32	3	9	1
Wyoming.....	0	0	0	0	0	0	5	0	67	3	6	6
Colorado.....	0	0	1	0	5	1	21	0	19	4	9	9
New Mexico.....	0	0	0	0	12	1	3	0	124	10	6	6
Arizona.....	0	0	0	0	0	0	3	3	25	2	7	3
Utah.....	0	0	0	0	0	0	4	1	70	7	36	13
PACIFIC												
Washington.....	0	0	0	0	3	1	10	10	63	20	12	13
Oregon.....	0	0	0	0	0	0	2	2	112	22	16	16
California.....	0	0	1	1	1.7	2	46	19	55	65	89	84
Total.....	1.4	35	53	53	2.9	73	879	397	46	1,182	1,298	1,481
37 weeks.....	2.5	2,285	4,389	4,380	1.3	1,237	6,301	5,292	154	140,899	168,788	168,788

Division and State	Smallpox				Typhoid and paratyphoid fever				Whooping cough	
	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases
NEW ENG.										
Maine.....	0	0	0	0	0	0	1	3	128	21
New Hampshire.....	0	0	0	0	10	1	1	0	0	0
Vermont.....	0	0	0	0	0	0	3	0	368	27
Massachusetts.....	0	0	0	0	4	3	5	5	124	105
Rhode Island.....	0	0	0	0	15	2	0	0	54	7
Connecticut.....	0	0	0	0	21	7	4	3	150	50
MID. ATL.										
New York.....	0	0	0	0	10	24	30	36	241	343
New Jersey.....	0	0	0	0	6	5	12	12	367	306
Pennsylvania.....	0	0	0	0	19	37	50	45	116	236

See footnotes at end of table.

Cases of certain diseases reported by telegraph by State health officers for the week ended Sept. 17, 1938, rates per 100,000 population (annual basis), and comparison with corresponding week of 1937 and 5-year median—Continued

Division and State	Smallpox				Typhoid and paratyphoid fever				Whooping cough	
	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases	Sept. 18, 1937, cases	1933-37 median	Sept. 17, 1938, rate	Sept. 17, 1938, cases
E. NO. CEN.										
Ohio.....	1	1	0	0	18	23	83	69	33	43
Indiana.....	3	2	5	0	14	9	3	13	18	12
Illinois.....	0	0	0	0	11	16	28	23	283	428
Michigan.....	0	0	2	0	17	16	10	13	356	330
Wisconsin.....	0	0	0	2	4	2	6	3	540	303
W. NO. CEN.										
Minnesota.....	0	0	2	0	4	2	5	5	49	25
Iowa.....	2	1	2	1	18	9	1	5	45	22
Missouri.....	0	0	3	0	18	14	33	31	12	9
North Dakota.....	7	1	0	0	7	1	0	1	340	46
South Dakota.....	8	1	0	0	0	0	1	3	30	4
Nebraska.....	0	0	1	1	0	0	0	0	38	10
Kansas.....	6	2	0	0	28	10	14	11	104	37
SO. ATL.										
Delaware.....	0	0	0	0	40	2	1	1	100	8
Maryland ¹	0	0	0	0	34	11	17	17	121	39
Dist. of Col.....	0	0	0	0	50	6	1	1	42	5
Virginia ²	0	0	0	0	25	13	18	27	42	22
West Virginia.....	0	0	0	0	02	33	15	23	109	39
North Carolina ³	1	1	1	0	21	14	9	16	260	174
South Carolina ⁴	0	0	0	0	53	19	14	15	211	76
Georgia ⁴	0	0	0	0	19	11	13	21	29	17
Florida ⁴	0	0	0	0	9	3	6	2	66	21
E. SO. CEN.										
Kentucky.....	4	2	0	0	64	36	25	43	73	41
Tennessee ⁴	4	2	0	0	29	16	12	37	29	16
Alabama ⁴	2	1	0	0	36	20	6	11	20	11
Mississippi ²	0	0	0	0	23	0	7	9	-----	-----
W. SO. CEN.										
Arkansas.....	0	0	0	0	64	25	13	13	10	4
Louisiana ⁴	0	0	0	0	24	10	18	18	24	10
Oklahoma.....	6	3	0	0	55	27	11	20	14	7
Texas ⁴	0	0	1	1	46	55	56	46	74	88
MOUNTAIN										
Montana.....	0	0	3	0	58	6	3	3	387	40
Idaho.....	21	2	4	0	42	4	8	6	32	3
Wyoming.....	0	0	0	0	0	0	0	0	155	7
Colorado.....	15	3	1	1	34	7	6	5	131	27
New Mexico.....	12	1	0	0	210	17	16	10	185	15
Arizona.....	0	0	0	0	76	6	6	3	51	4
Utah ²	0	0	0	0	0	0	0	1	301	30
PACIFIC										
Washington.....	50	16	14	4	22	7	6	5	63	20
Oregon.....	10	2	5	0	10	2	5	5	229	47
California.....	1	1	4	1	16	19	16	11	137	162
Total.....	2	42	48	35	23	559	604	669	141	3,287
37 weeks.....	14	12,852	8,184	5,423	11	10,446	10,614	12,104	183	158,315

¹ New York City only.

² Period ended earlier than Saturday.

³ Rocky Mountain spotted fever, week ended September 17, 1938, 3 cases as follows: Virginia, 2, North Carolina, 1.

⁴ Typhus fever, week ended September 17, 1938, 75 cases as follows: North Carolina, 1; South Carolina, 7; Georgia, 35; Florida, 2; Tennessee, 2; Alabama, 6; Louisiana, 2; Texas, 20.

SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of cases reported monthly by States is published weekly and covers only those States from which reports are received during the current week:

State	Menin- gitis, menin- gococ- cus	Diph- theria	Influ- enza	Ma- lar- ia	Mea- sles	Pel- lagra	Polio- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
<i>August 1938</i>										
Alabama	4	93	65	1,017	53	35	8	40	0	79
Dist. of Columbia	1	66			10		9	19	0	13
Maryland	1	17	16	3	33	2	5	19	0	57
Michigan	3	35	1	7	440		10	278	10	40
Missouri	2	29	90	96	28	6	4	76	9	73
Nebraska	0	4	5		17		3	11	5	2
New Jersey	0	20	17	3	80		13	59	0	27
New York	16	38		15	799		45	239	0	149
North Carolina	11	154	4	84	284	79	10	96	0	70
Ohio	6	77	16	5	89		6	188	1	97
Pennsylvania	13	84		3	483		15	300	0	94
Texas	10	147	365	1,053		209	9	141		286

August 1938

Actinomycosis:		Jaundice, infectious:		Tetanus:	
Cases		Cases		Cases	
Michigan	2	Maryland	1	Alabama	9
Pennsylvania	1	Lead poisoning:		Maryland	1
Chickenpox:		Ohio	10	Michigan	2
Alabama	3	Mumps:		Missouri	1
District of Columbia	7	Alabama	28	New Jersey	2
Maryland	12	Maryland	14	New York	6
Michigan	140	Michigan	59	Trachoma:	
Missouri	7	Missouri	40	Alabama	1
Nebraska	3	Nebraska	22	Michigan	1
New Jersey	72	New Jersey	185	Missouri	36
New York	272	Ohio	152	Pennsylvania	2
North Carolina	21	Pennsylvania	510	Trichinosis:	
Ohio	95	Ophthalmia neonatorum:		New York	4
Pennsylvania	234	Alabama	1	Pennsylvania	2
Diarrhea:		Missouri	1	Tularaemia:	
Maryland	166	New Jersey	1	Alabama	1
Ohio (under 2 years; enteritis included)	300	New York ¹	3	Michigan	1
Dysentery:		Ohio	89	Missouri	1
Maryland	87	Pennsylvania	1	Pennsylvania	1
Michigan (amoebic)	3	Paratyphoid fever:		Typhus fever:	
Michigan (bacillary)	42	Maryland	3	Alabama	38
Missouri	39	Michigan	9	New York	2
New Jersey (amoebic)	1	New Jersey	1	North Carolina	9
New Jersey (unspeci- fied)	1	New York	20	Ohio	1
New York (amoebic)	11	North Carolina	2	Undulant fever:	
New York (bacillary)	380	Ohio	6	Alabama	14
North Carolina (bacil- lary)	4	Texas	18	District of Columbia	1
Ohio (bacillary)	19	Puerperal septicemia:		Maryland	8
Pennsylvania (bacil- lary)	8	Ohio	3	Michigan	3
Encephalitis, epidemic or lethargic:		Rabies in animals:		Missouri	1
Alabama	4	Alabama	40	New Jersey	2
Michigan	2	Missouri	10	New York	18
Nebraska	2	New Jersey	56	North Carolina	5
New Jersey	1	New York ¹	2	Ohio	7
New York	6	Rabies in man:		Pennsylvania	12
Ohio	2	Missouri	1	Vincent's infection:	
Pennsylvania	1	Rocky Mountain spotted fever:		Maryland	9
Texas	1	District of Columbia	4	Michigan	21
German measles:		Maryland	14	New York ¹	58
Alabama	10	Missouri	2	Whooping cough:	
Maryland	11	New Jersey	2	Alabama	162
Michigan	14	New York	2	District of Columbia	40
New Jersey	26	North Carolina	9	Maryland	136
New York	53	Ohio	3	Michigan	1,716
North Carolina	8	Pennsylvania	1	Missouri	84
Ohio	2	Septic sore throat:		Nebraska	54
Pennsylvania	15	Maryland	21	New Jersey	1,206
Impetigo contagiosa:		Michigan	7	New York	2,367
Maryland	16	Missouri	8	North Carolina	886
		New Jersey	6	Ohio	841
		New York	97	Pennsylvania	1,443
		North Carolina	11		
		Ohio	48		

¹ Exclusive of New York City.

WEEKLY REPORTS FROM CITIES

City reports for week ended Sept. 10, 1938

This table summarizes the reports received weekly from a selected list of 140 cities for the purpose of showing a cross section of the current urban incidence of the communicable diseases listed in the table.

State and city	Diph- theria cases	Influenza		Meas- les cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases	Deaths, all causes
		Cases	Deaths								
Data for 90 cities:											
5-year average...	123	53	15	132	291	314	2	341	92	978	-----
Current week...	65	35	11	126	242	249	7	283	78	1,646	-----
Maine:											
Portland.....	0	-----	0	0	1	0	0	0	1	0	14
New Hampshire:											
Concord.....	0	-----	0	0	0	0	0	1	0	0	13
Manchester.....	0	-----	0	0	1	0	0	0	0	0	15
Nashua.....	0	-----	0	0	0	0	0	0	0	0	5
Vermont:											
Barre.....	0	-----	0	1	0	2	0	0	0	18	4
Burlington.....	1	-----	0	0	0	0	0	0	0	0	8
Rutland.....	0	-----	0	0	0	0	0	0	0	0	4
Massachusetts:											
Boston.....	0	-----	1	3	8	8	0	3	0	18	197
Fall River.....	0	-----	0	0	0	0	0	1	1	0	24
Springfield.....	0	-----	0	1	0	0	0	1	0	1	26
Worcester.....	1	-----	0	0	2	3	0	0	0	11	31
Rhode Island:											
Pawtucket.....	0	-----	0	0	0	0	0	0	0	0	18
Providence.....	0	-----	0	0	1	1	0	1	0	5	44
Connecticut:											
Bridgeport.....	0	-----	0	0	1	0	0	0	0	4	39
Hartford.....	0	-----	0	1	1	1	0	0	1	0	26
New Haven.....	0	-----	0	0	0	0	0	0	0	12	38
New York:											
Buffalo.....	0	-----	0	0	3	5	0	5	0	9	108
New York.....	14	1	1	19	52	11	0	62	23	398	1,074
Rochester.....	0	-----	0	1	2	0	0	0	0	2	44
Syracuse.....	0	-----	0	1	1	1	0	0	0	18	44
New Jersey:											
Camden.....	0	-----	0	0	0	1	0	0	1	1	26
Newark.....	1	-----	0	1	1	3	0	5	0	57	79
Trenton.....	0	-----	0	0	0	0	0	0	2	1	17
Pennsylvania:											
Philadelphia.....	0	3	1	2	9	17	0	23	4	65	364
Pittsburgh.....	1	-----	0	2	3	4	0	6	0	27	125
Reading.....	0	-----	0	0	1	2	0	0	0	1	16
Scranton.....	0	-----	-----	1	-----	0	0	-----	0	4	-----
Ohio:											
Cincinnati.....	0	1	1	0	7	7	0	5	0	1	139
Cleveland.....	0	1	0	1	9	9	0	18	2	26	187
Columbus.....	1	-----	0	1	1	2	0	3	0	0	75
Toledo.....	1	-----	0	1	1	2	0	5	0	9	54
Indiana:											
Anderson.....	0	-----	0	0	1	1	0	0	0	0	11
Fort Wayne.....	0	-----	0	0	2	2	0	1	0	0	25
Indianapolis.....	0	-----	0	2	7	8	0	4	0	6	104
Muncie.....	0	-----	0	0	2	4	0	0	0	0	19
South Bend.....	0	-----	0	0	0	3	0	0	0	0	11
Terre Haute.....	2	-----	0	0	0	1	0	0	0	0	12
Illinois:											
Alton.....	0	-----	0	0	0	0	0	0	0	0	12
Chicago.....	4	5	1	8	19	32	0	38	5	306	513
Elgin.....	1	-----	0	0	1	0	0	0	0	1	8
Springfield.....	1	-----	0	0	1	1	0	0	0	2	22
Michigan:											
Detroit.....	1	-----	0	2	8	18	0	5	2	179	212
Flint.....	0	-----	0	0	1	4	0	1	0	0	20
Grand Rapids.....	0	-----	0	0	4	4	0	0	0	0	30
Wisconsin:											
Kenosha.....	0	-----	0	0	0	0	0	0	0	1	4
Madison.....	0	-----	0	1	0	0	0	0	0	4	9
Milwaukee.....	0	-----	0	1	1	11	0	3	1	170	81
Racine.....	0	-----	0	0	0	0	0	0	0	19	9
Superior.....	0	-----	0	0	0	2	0	0	0	5	0

City reports for week ended Sept. 10, 1938—Continued

State and city	Diph- theria cases	Influenza		Meas- les cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases	Deaths, all causes
		Cases	Deaths								
Minnesota:											
Duluth	0		0	0	0	3	2	0	0	19	18
Minneapolis	1		1	1	2	10	0	0	0	4	83
St. Paul	0		0	1	3	2	0	3	0	13	56
Iowa:											
Cedar Rapids	0			0		0	0		0	3	
Davenport	0			0		0	0		0	0	
Des Moines	0		0	0	0	4	0	0	0	0	25
Sioux City	0			0		0	0		0	2	
Waterloo	0			0		1	0		0	0	
Missouri:											
Kansas City	1		0	1	1	2	0	3	1	0	82
St. Joseph	0		0	1	1	1	0	0	0	0	18
St. Louis	1		0	2	0	6	0	8	6	8	147
North Dakota:											
Fargo	0		0	4	1	4	0	0	0	5	2
Grand Forks	0			0		0	0		0	0	
Minot	0		0	1	0	0	0	0	0	0	8
South Dakota:											
Aberdeen	0			0		0	0		0	0	
Nebraska:											
Lincoln	0			0		1	0		0	1	
Omaha	0		0	0	4	1	0	1	0	1	43
Kansas:											
Lawrence	0		0	0	0	0	0	0	0	0	6
Topeka	0			2	1	4	0	0	0	8	17
Wichita	0		0	0	1	0	0	2	0	6	16
Delaware:											
Wilmington	1		0	0	2	1	0	1	1	2	26
Maryland:											
Baltimore	1		0	1	3	6	0	8	2	13	179
Cumberland	0		0	0	1	0	0	0	0	0	5
Frederick	0		0	0	0	0	0	0	0	0	6
Dist. of Col.:											
Washington	4	1	1	2	5	1	0	7	8	7	127
Virginia:											
Lynchburg	4		0	0	0	0	0	0	2	1	13
Norfolk	0		0	0	2	1	0	0	0	0	15
Richmond	1		0	0	3	1	0	1	1	0	43
Roanoke	0		1	0	2	1	0	2	0	3	19
West Virginia:											
Charleston	0		0	0	1	0	0	0	0	0	14
Wheeling	0		0	0	2	0	0	0	0	3	15
North Carolina:											
Gastonia	0			0		0	0		0	0	
Raleigh	0		0	0	1	0	0	0	0	2	10
Wilmington	1		0	0	3	0	0	1	0	9	11
Winston-Salem	0		0	0	1	0	0	0	0	2	11
South Carolina:											
Charleston	0	7	0	0	0	1	0	0	1	1	9
Florence	0		0	0	3	0	0	0	0	0	11
Greenville	0		0	0	1	1	0	0	0	2	20
Georgia:											
Atlanta	0	2	0	0	0	0	0	2	1	0	64
Brunswick	0		0	0	0	0	0	1	0	0	4
Savannah	0	5	1	0	0	0	0	0	0	3	33
Florida:											
Miami	0	1	0	0	2	0	0	1	0	0	24
Tampa	0		0	0	4	0	0	1	0	1	16
Kentucky:											
Ashland	1		0	0	1	0	0	0	0	0	37
Covington	0		0	0	0	1	0	1	0	0	18
Lexington	0		0	1	2	2	0	0	0	2	25
Louisville	0	1	0	0	1	6	0	1	0	2	83
Tennessee:											
Knoxville	1		0	0	0	0	0	2	2	0	27
Memphis	0		1	0	0	1	0	5	1	3	69
Nashville	0		0	0	1	2	0	4	0	5	35
Alabama:											
Birmingham	1	1	1	0	2	2	0	2	0	0	71
Mobile	1	1	0	0	0	1	0	1	0	0	18
Montgomery	1			0		1	0		0	4	
Arkansas:											
Fort Smith	0			0		1	0		0	0	
Little Rock	0			0		0	0	2	0	2	

City reports for week ended Sept. 10, 1938—Continued

State and city	Diph- theria cases	Influenza		Meas- les cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases	Deaths, all causes
		Cases	Deaths								
Louisiana:											
New Orleans.....	0		0	1	17	0	0	7	3	88	121
Shreveport.....	1		0	1	6	0	0	0	1	0	55
Oklahoma:											
Oklahoma City.....	0		0	0	1	0	0	1	0	0	32
Tulsa.....	1			0		1	0		0	6	
Texas:											
Dallas.....	4		0	1	4	1	0	8	0	2	59
Fort Worth.....	0		0	1	2	0	0	1	1	8	25
Galveston.....	0		0	0	2	0	0	0	0	0	12
Houston.....	4		0	0	4	3	0	3	0	0	74
San Antonio.....	3		0	0	4	1	0	3	0	0	53
Montana:											
Billings.....	0		0	0	0	0	0	0	0	1	7
Great Falls.....	0		0	0	0	1	0	0	0	13	3
Helena.....	0			0		0	0		0	1	
Missoula.....	0		0	0	0	0	0	0	0	3	5
Idaho:											
Boise.....	0		0	0	0	0	0	0	0	0	2
Colorado:											
Colorado Springs.....	0		0	0	2	0	0	1	1	10	12
Denver.....	5		0	1	1	3	0	5	1	17	72
Pueblo.....	0		0	0	0	1	0	0	0	1	8
New Mexico:											
Albuquerque.....	0		0	0	0	1	0	2	0	0	7
Utah:											
Salt Lake City.....	0		0	0	2	3	0	3	0	6	30
Washington:											
Seattle.....	1		0	0	6	0	5	3	0	2	88
Spokane.....	0		0	0	0	0	0	0	2	0	18
Tacoma.....	0		0	0	1	1	0	0	0	1	19
Oregon:											
Portland.....	0	1	0	1	1	2	1	1	1	2	67
Salem.....	0			0		0	0		0	0	
California:											
Los Angeles.....	4	6	0	33	8	19	0	15	0	26	284
Sacramento.....	0		0	3	1	0	0	1	0	2	24
San Francisco.....	0		0	24	5	3	0	3	4	19	148

State and city	Meningitis, meningococcus		Polio- mye- litis cases	State and city	Meningitis, meningococcus		Polio- mye- litis cases
	Cases	Deaths			Cases	Deaths	
Maine:				Michigan:			
Portland.....	0	0	1	Detroit.....	0	0	2
Vermont:				Iowa:			
Burlington.....	0	0	1	Sioux City.....	1	1	0
Massachusetts:				District of Columbia:			
Worcester.....	0	1	0	Washington.....	0	0	2
Connecticut:				Virginia:			
Hartford.....	0	0	1	Richmond.....	1	0	0
New York:				North Carolina:			
New York.....	2	0	5	Gastonia.....	0	0	1
Pennsylvania:				South Carolina:			
Philadelphia.....	0	0	2	Charleston.....	0	0	1
Indiana:				Georgia:			
Terre Haute.....	0	0	1	Savannah.....	1	0	1
Illinois:				Alabama:			
Chicago.....	1	0	3	Birmingham.....	1	0	1

Encephalitis, epidemic or lethargic.—Cases: New York, 1; Philadelphia, 1; St. Paul, 2; St. Louis, 1; Minot, 3; Omaha, 1; Lawrence, Kans., 1; Louisville, 1; Billings, 1; Denver, 2.

Pellagra.—Cases: Charleston, S. C., 1; Atlanta, 7; Savannah, 2; New Orleans, 1; San Antonio, 1; Sacramento, 1; San Francisco, 1.

Typhus fever.—Cases: Fort Wayne, 1; Raleigh, 1; Charleston, S. C., 1; Atlanta, 1; Savannah, 9.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—2 weeks ended August 27, 1938.—
During the 2 weeks ended August 27, 1938, cases of certain communicable diseases were reported by the Department of Pensions and National Health of Canada as follows:

Disease	Prince Edward Island	Nova Scotia ¹	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Cerebrospinal meningitis				1						1
Chickenpox			3	29	47	14	34			153
Diphtheria		4	2	107	6	6	1	3	38	126
Dysentery				2			5		17	24
Erysipelas				3	3	3		1	4	14
Influenza		8			2	5			5	20
Lethargic encephalitis										
Measles		6		1	79	5		5	19	142
Mumps				28	21	1		4	2	25
Paratyphoid fever					3			1		4
Pneumonia					12				6	18
Poliomyelitis			2	2	21	24	2	27	11	59
Scarlet fever		9	5	77	57	28	12	22	17	227
Trachoma								2		2
Tuberculosis	4	40	40	107	77	98		2	26	394
Typhoid fever			5	46	13	4	8	5	7	88
Undulant fever					4	1		1		6
Whooping cough		6	17	212	305	25	7	2	58	632

¹ For 2 weeks ended Aug. 31, 1938.

CUBA

Habana—Communicable diseases—4 weeks ended August 27, 1938.—
During the 4 weeks ended August 27, 1938, certain communicable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Diphtheria	8	1	Tuberculosis	13	1
Malaria	26	1	Typhoid fever	16	2
Scarlet fever	3				

¹ Includes imported cases.

Provinces—Notifiable diseases—4 weeks ended August 20, 1938.—During the 4 weeks ended August 20, 1938, cases of certain notifiable diseases were reported in the Provinces of Cuba as follows:

Disease	Pinar del Rio	Habana	Matanzas	Santa Clara	Camaguey	Oriente	Total
Cancer.....		1		10			11
Chickenpox.....		2				1	3
Diphtheria.....	1	14	4	4	2	2	27
Dysentery (bacillary).....				1			1
Hookworm disease.....				2			2
Leprosy.....				3			3
Malaria.....	49	30	6	50	19	45	200
Measles.....	3	1	1	1			6
Poliomyelitis.....						1	1
Scarlet fever.....		3					3
Tuberculosis.....	17	24	32	31	8	10	122
Typhoid fever.....	44	72	28	81	26	55	306
Whooping cough.....		2		3			5
Yaws.....						1	1

DENMARK

Notifiable diseases—April–June 1938.—During the months of April, May, and June 1938, cases of certain notifiable diseases were reported in Denmark as follows:

Disease	April	May	June	Disease	April	May	June
Cerebrospinal meningitis.....	6	6	4	Paratyphoid fever.....	13	8	20
Chickenpox.....	1, 157	946	668	Poliomyelitis.....	5	5	15
Diphtheria.....	40	73	79	Puerperal fever.....	14	27	20
Epidemic encephalitis.....	2	4	2	Scarlet fever.....	470	540	438
Erysipelas.....	222	233	228	Syphilis.....	36	37	53
Gastro-enteritis, acute.....	2, 000	2, 282	2, 026	Tetanus, neonatorum.....	11	2	5
German measles.....	261	314	234	Typhoid fever.....	1	3	3
Gonorrhea.....	717	724	746	Undulant fever.....	46	54	49
Influenza.....	13, 507	20, 705	9, 237	Weil's disease.....	1		
Malaria.....		1		Whooping cough.....	911	1, 106	1, 255
Measles.....	4, 971	4, 445	3, 852				
Mumps.....	571	521	389				

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

CHOLERA—Continued

[C Indicates cases; D, deaths; P, present]

Place	Week ended—											
	June 1938				July 1938				August 1938			
	4	11	18	25	2	9	16	23	30	6	13	20
Jan. 30- Feb. 26, 1938	Feb. 27- Mar. 26, 1938	Mar. 27- Apr. 30, 1938	May 1-28, 1938									
India—Continued.												
Bombay Presidency.....	4	14	52	22						287	620	
Bombay.....	2	9	38	41						113	192	
Calcutta.....	226	574	634	436						3		
Cawnpore.....				15						24	12	20
Central Provinces and Berar.....	50	213	4,039	5,640						49	21	24
Chittagong.....	1			6						10	9	11
Delhi.....				2						10	10	4
Hawrah.....				2						6,078	5,342	9,264
Jodhpur.....				74						3		
Madras Presidency.....	957	705	1,575	137								
Madras.....	16	376	730	352								
Northwest Frontier Province.....	82	102	169	284								
Orissa Province.....				425						70	42	93
Gwalpur.....				57						25	12	11
Punjab.....				202						63	11	43
Rangoon.....				153						23	17	6
Sind State.....				57								
Larkana.....				89								
Vizagapatam.....				1								
India (French):.....												
Chandernagor Territory.....	10	9	27									
Karikal Province.....	4	35	6									
Pondichery Province.....				2								
Yanaon.....												
India (Portuguese): Noroll.....												
India (Portuguese):.....												
Annam Province.....	338	13	451	615						151	161	53
Tonkin Province.....	55	55	1,043	1,659						15	8	
Haiphong.....				103								
Hanoi.....				11								

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

Place	Week ended—												
	June 1938				July 1938					August 1938			
	4	11	18	25	2	9	16	23	30	6	13	20	27
Indochina (French) (see also table below):													
Tonkin Province.....	707	675	905	332	85	36	26	19	11	32	10	20	15
Halong.....	148	45	30	3	1								
Hanoi.....	15	16	46	6	4						1	1	1
Saigon-Cholon.....	1	1	2	2			2	3					
Tourane.....				1									
Iran.....	0	2	2										
Baghdad.....	8		11										
Basra Province.....	1	1											
Ivory Coast. (See table below.)													
Japan:													
Kobe.....						1							
Nara Prefecture.....			1										
Saga Prefecture.....													
Mexico (see also table below):													
Chihuahua.....		1											
Durango.....	2	2	1										
Mexico, D. F.....	3	2	6	11	6	3	3	1					
Monterrey.....	1	2	2	2		4						3	
Saitillo.....					1								
San Luis Potosi.....				2	1								
Turreon.....	2												
Morocco. (See table below.)													
Nigeria.....	57	1,224	253	405	183	147		102	1				
Lagos.....		3	4	1		1							
Niger Territory. (See table below.)													
Northern Rhodesia.....								9				6	
Portugal (see also table below):													
Lisbon.....	4	12	1	5		3	1	4	13		4		1
Salvador. (See table below.)									2				
Senegal. (See table below.)													
Siam.....	26	84	3	1	1								

Sierra Leone.....	C	4	5	23	6	1	1	70	1	163	84	549	187	10	225	133
Southern Rhodesia.....	C	21	7	28	39											
Straits Settlements: Singapore.....	C			1												
Sudan (Anglo-Egyptian).....	C	63	58	59	19	4		4			1			1		3
Tunisia: Tunis.....	C															
Union of South Africa..... (See table below.)	C															
Venezuela (see also table below): Puerto Cabello. ¹																

On vessels:

S. S. <i>Tulula Maru</i> at Honolulu.....	1 case	Feb. 4, 1938	On vessels—Continued.	S. S. <i>Hinang</i> at Sandakan from Hong Kong.....	2 cases	Mar. 22-24, 1938
S. S. <i>Circasia</i> at Aden from Bombay.....	1 case	Feb. 16, 1938		S. S. <i>Kitarin Maru</i> at Moll from Dairen.....	1 case	Mar. 31, 1938
S. S. <i>Chantala</i> at Akyab from Chittagong.....	1 case	Feb. 18, 1938		S. S. <i>Sirdhana</i> at Singapore from Kobe, Amoy, and Hong Kong.....	1 case	
S. S. <i>Empress of Japan</i> at Honolulu.....	1 case	Feb. 21, 1938		S. S. <i>Proper</i> at Singapore from Hong Kong and Swatow.....	2 cases	Apr. 1, 1938
S. S. <i>Tilawa</i> at Singapore from Hong Kong.....	1 case	Feb. 21, 1938		S. S. <i>Strathaird</i> at Fremantle.....	2 cases	Apr. 3, 1938
S. S. <i>Serrina</i> at Calcutta from Port Said.....	1 case	Feb. 24, 1938		S. S. <i>Shirata</i> at Singapore from Japan.....	1 case	Apr. 7, 1938
S. S. <i>Yuen Sang</i> at Singapore from Hong Kong.....	1 case	Feb. 28, 1938		S. S. <i>Hosang</i> at Singapore from Hong Kong.....	3 cases	Apr. 14, 1938
S. S. <i>Calbay</i> at London.....	1 case	Mar. 4, 1938		S. S. <i>Greiner</i> at Singapore from Amoy, Swatow, and Hong Kong.....	1 case	Apr. 16, 1938
S. S. <i>City of Auckland</i> at Halifax from Calcutta.....	1 case	Mar. 4, 1938		S. S. <i>Jean Laborde</i> at Singapore from Kobe, Shanghai, Hong Kong, and Saigon.....	1 case	Apr. 19, 1938
S. S. <i>Kaiser-i-Hind</i> at Yokohama from Hong Kong.....	3 cases	Mar. 5, 1938		S. S. <i>Sandiken</i> at Singapore from Hong Kong.....	1 case	Apr. 21, 1938
S. S. <i>Van Heutz</i> at Singapore from Amoy, Swatow, and Hong Kong.....	1 case	Mar. 6-7, 1938		S. S. <i>Hinang</i> at Sandakan from Hong Kong.....	1 case	Apr. 29, 1938
S. S. <i>Hai Hing</i> at Singapore from Amoy, Swatow, and Holrow.....	1 case	Mar. 9, 1938		S. S. <i>Forth Bank</i> at Nigata from Vancouver.....	1 case	May 18, 1938
S. S. <i>Netuka Maru</i> at Moll from Dairen.....	1 case	Mar. 9, 1938		S. S. <i>Ellenga</i> at Rangoon from Calcutta.....	1 case	May 28, 1938
S. S. <i>Noriken</i> at Singapore from Hong Kong and Swatow.....	1 case	Mar. 11, 1938		S. S. <i>Planter</i> at Aden.....	1 case	July 19, 1938
S. S. <i>Kum Sang</i> at Singapore from Kobe, Amoy, and Hong Kong.....	1 case	Mar. 13, 1938		S. S. <i>Katori Maru</i> at Kobe from London, Singapore, Hong Kong, and Shanghai.....	1 case	Aug. 2, 1938
S. S. <i>Haruna Maru</i> at Kobe from Hong Kong.....	1 case	Mar. 16, 1938			3 cases	Aug. 20, 1938

¹ For 2 weeks.² A report dated Feb. 10, 1938, states that 16 cases of smallpox were reported in Puerto Cabello; information dated Feb. 21, 1938, states that 4,000 cases of smallpox (alastrim) were reported in Barquisimeto, Lara State, Venezuela, and that smallpox is present from Barquisimeto to Valencia and Maracay.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

Place	Febru- ary 1938	March 1938	April 1938	May 1938	June 1938	July 1938	Place	Febru- ary 1938	March 1938	April 1938	May 1938	June 1938	July 1938
Angola.....	29		86	13			Mexico—Continued.						
Belgian Congo.....	336		252	251			Cochulla State—Pie Itras				1		
Bolivia:							Negras.....			1			
Cochabamba Department.....	44		1	5	4	2	Guerrero State.....			7			
La Paz Department.....	411	9	12	6	5	5	Hidalgo State.....		1	1			
Oruro Department.....			1	1			Mexico State.....	1					
Potosi Department.....	45	2	4	1	4		Mexico, D. F.....	4	6	5	19		
Santa Cruz Department.....	45		1	1	1	5	Michoacan State.....			4	5		
Tarifa Department.....	4	1		1			Nuevo Leon State—Monter-			2	4		
Brazil (see also table above).....							rey.....						
Chosen.....			5	8			Puebla State.....	4	6	3			
Colombia.....	1	194		2	226		Queretaro State.....	4	1	1			
Greece: Salonika.....		7	1	3	4		San Luis Potosi State.....		4		1		
Guatemala.....							Tamulipas State.....			4			
Indochina (French) (see also table							Morocco.....	31	53	51			4
above).....	884	1,258	1,237	511			Niger Territory.....	13			46	3	
Ivory Coast.....	189	237	161	90			Portugal (see also table above)	2					
Mexico (see also table above):	48	23	33				Salvador.....	42	103	116			
Aguascalientes State—Aguasca-							Senegal.....			110			
liences.....							Union of South Africa: Transvaal			110	8	72	2
Campeche State.....			12	1			Venezuela.....					5	
Chiapas State.....			2										
Chihuahua State.....	1	1											
Ciudad Juarez.....		1		4									

4 For 2 months.

5 For 3 months.

Place	431	689	652	100	136	100	88	97	67	31	20	18	10	13
Poland.....	D	38	30	4	7		1	3	4					
Portugal. (See table below.)	D													
Rumania. (See table below.)														
Sierra Leone: Freetown.....	C							1				1		
Straits Settlements: Singapore.....	C													
Syria: Dair-az-Zor.....	C	3												
Trans-Jordan.....	C													
Tunisia.....	C													
Tunisia: Provinces.....	C	7	12	5	2	6	78	93	6	2	37	2	1	26
Turkey. (See table below.)	C	201	217	45	38	94			54	47		12	26	
Union of South Africa. (See table below.)	C	211												
Yugoslavia: Belgrade.....	C	1												
On vessel: S. S. Empress of Japan at Yokohama.....	C		1											

Place	Febru- ary 1938	March 1938	April 1938	May 1938	June 1938	July 1938	Place	Febru- ary 1938	March 1938	April 1938	May 1938	June 1938	July 1938
Bolivia:							Mexico—Continued.						
Cochabamba Department.....	18	5	12	4		1	Mexico D. F.....	16	26	32	5		
La Paz Department.....	19	3	3	17	8	5	Mexico City.....	4		1			
Oruro Department.....	15	8	5	8	6	2	Oaxaca State.....						
Potosi Department.....	1	5	4	9	4	2	Puebla State.....		6				
China: Manchuria—Harbin.....	2	2	12	55			Queretaro State.....	5	5	2	2		
Chosen.....	33	6	1	1			San Luis Potosi State.....	2	5	2			
Czechoslovakia.....	3	3					Tlaxcala State.....	1	1	4			
Dutch East Indies: Sumatra.....	3	6					Zacatecas State.....	1,118	1,545	1,474	1,204		
Greece.....	3	1	40	2	11	106	Morocco (see also table above).....	17					
Guatemala.....	8	40	20	25	3		Panama Canal Zone.....	510	533	257	222	35	
Latvia.....							Portugal.....	43	48	73	38		
Lithuania.....							Turkey.....	10	1	3	3	6	4
Mexico (see also table above):							Istanbul.....	43	49	36	4	37	
Agua Calientes State.....	1		2	3			Union of South Africa:						
Cochula State.....			4	3			Cape Province.....	43	3	1			
Guanajuato State.....			2				Port Elizabeth.....	4					
Hidalgo State.....			1				Natal.....	24	2	6	2	2	
Jalisco State.....							Orange Free State.....	4	4	7	3		
Lower California.....							Transvaal.....						
Mexico State.....	7	6		7									

* For January and February.
* Tropical Typhus fever.

